UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

February 18, 2010

Wilmington, MA 01887

Subject: Analysis of Groundwater from Your Well (Map 24/Lot 94)
Olin Chemical Superfund Site

Dear

At the direction of the United States Environmental Protection Agency (EPA), consultants working for Olin Corporation (which is subject to a consent order with EPA to evaluate environmental conditions in and around property it owns on Eames Street) collected a water sample from your well on November 10, 2009 to analyze for chemical compounds which have been found in groundwater associated with the Olin Chemical Superfund Site. You should have recently received a letter from Olin Corporation conveying the results of their analysis. At that time, EPA also collected a sample for independent analysis.

The laboratory contracted by Olin detected N-nitrosodimethylamine (NDMA) at a concentration of 6.3 nanograms per liter (ng/l), equivalent to 0.0000000063 grams per liter or 6.3 parts per trillion. The laboratory contracted by EPA detected NDMA at 10.6 ng/l, which is statistically similar and demonstrates good correlation between Olin and EPA results. These results are lower than the 14 ng/l of NDMA detected in your well water in October 2008. However, NDMA was not detected in your well in March 2009.

NDMA is a probable human carcinogen and is a contaminant of emerging concern. There are no federal or Massachusetts drinking water standards for NDMA at this time.

The Massachusetts Department of Environmental Protection (MassDEP) has, however issued a "guideline" limit (i.e., a non-enforceable limit) of 10.0 ng/l of NDMA in public drinking water supplies. The concentration of NDMA detected in your well is above the MassDEP guideline limit. Under MassDEP's guideline, public water supply operators are required to report concentrations of NDMA detected at or above 10.0 ng/l, but the MassDEP guideline does not require that actions be taken to limit exposures. Public water supply operators are required to take action if NDMA is detected at or above a concentration of 50.0 ng/l.

Moreover, since this is a federal Superfund site, state guidelines are considered by EPA but do not dictate what actions should be undertaken in response to potential risks to public health. Therefore, consistent with Superfund policy involving chemicals in drinking water for which no federal or state drinking water standard exists, EPA has prepared a focused risk assessment based on the water sample from your well. The results conclude that if a person drinks an average of 2.0 liters of water per day for 350 days per year for 70 years, and the concentration of NDMA remains constant at 10.6 ng/l for 70 years, that person would have a 4 in 100,000 increased possibility of developing cancer. This risk represents a conservative and cautious estimate of the maximum lifetime exposure risk from drinking the water. Due to the chemical properties of NDMA (e.g., low volatility and low permeability), NDMA does not readily transfer from water to air or from water to skin, therefore inhalation and direct contact with NDMA in groundwater (i.e., showering) do not result in measurable exposure risk. This 4 in 100,000 risk from drinking is below the 1 in 10,000 risk (of developing cancer over a lifetime of exposure) that EPA uses as a benchmark in determining whether use of a drinking water supply should be discontinued immediately.

In addition to NDMA, your well water was also tested by Olin or EPA contracted laboratories for the following chemicals or chemical groups:

- N-nitrosodi-n-propylamine
- N-nitrosodiphynelamine
- Formaldehyde
- Acetaldehyde
- Hydrazine
- Bis 2-Ethylhexyl phthalate
- Butylbenzylphthalate
- Di-n-octylphthalate
- Di-n-butylphthalate
- Phenol
- Diethylphthalate
- Dimethylphthalate
- VOCs (volatile organic compounds)[1]
- SVOCs (semi-volatile organic compounds)[2]
- Metals[3]
- Calcium
- Chromium
- Sodium
- Nitrate

[1] VOCs include a group of approximately 50 compounds.
[2] SVOCs include a group of approximately 70 compounds.
[3] Metals include a group of approximately 25 compounds.

- Nitrite
- Chloride
- Sulfate
- Ammonia

Formaldehyde was not detected by the EPA contracted laboratory in the original sample, however it was detected by the EPA laboratory in a "duplicate" sample at an estimated level of 71 micrograms per liter (ug/l), equivalent to 0.000071 grams per liter or 71 parts per billion. Duplicate samples are routinely analyzed by laboratories as an internal method to measure accuracy. Formaldehyde was not detected by the Olin contracted laboratory. There are no federal or state drinking water standards or guidelines for formaldehyde. While EPA considers this result to be questionable, the concentration of formaldehyde at 71 ug/l is well below a level of concern based on a conservative estimate of risk.

One volatile organic compound, tetrahydrofuran, was detected by the EPA contracted laboratory at a concentration of 1.1 ug/l. Tetrahydrofuran was not detected by the Olin contracted laboratory. There are no federal or state drinking water standards for tetahydrofuran. The Massachusetts Department of Environmental Protection (MassDEP) has issued a "guideline" limit (i.e., a non-enforceable) of 1,300 ug/l of tetrahydrofuran in public drinking water supplies. The concentration of tetrahydrofuran detected is well below a level of concern.

Several metals such as copper and lead were detected, as well as sodium, however these compounds are often naturally-occurring or plumbing-related, and none were present at concentrations that present a potential health concern.

EPA results are fully listed on the attached laboratory sheets. Positive detections are in **bold text**.

Based on these results, EPA does not recommend any restriction on the use of your well water at this time.

However, due to the continued detection of NDMA in your well, EPA recommends re-testing. A representative from Olin will contact you to schedule another sampling event.

While EPA understands that any concentration of NDMA detected in your drinking water may be of concern, please be aware that NDMA is present in many common foods, beverages and household products. I raise this point not as cause for more concern, but so you can understand that we are all exposed to NDMA on a daily basis, and that a person's baseline exposure to NDMA is not zero.

EPA will revisit this recommendation as additional data are collected.

I would appreciate your continued cooperation. Please call me at (617) 918-1247, or contact me by email at dilorenzo.jim @epa.gov should you have any questions.

Sincerely,

James M. DiLorenzo (Jim)
Remedial Project Manager
US EPA

Enclosure

Cc: Joe Coyne, MassDEP
Michael Caira, Town Manager
Steve Morrow, Olin Corporation

REDACTED